

IN THE CLAIMS

1. (Currently Amended) A method of processing a broadcast data stream that contains a stream of encrypted data and ~~a stream of decryption information~~ messages, data in successive segments of the stream of encrypted data being decryptable ~~with successive using the decryption information from the messages, the method comprising comprising:~~

- storing the stream of encrypted data, ~~wherein the stored stream of encrypted data does not include any entitlement control messages;~~

- storing items with decryption information for the ~~stored stream of~~ encrypted data independently retrievable from the ~~stored stream of~~ encrypted data, ~~wherein the items with decryption information include the entitlement control messages for decrypting the stored stream of encrypted data;~~

- storing synchronization information linking respective points in the stored stream of encrypted data to respective ones of the items with decryption information;

- replaying a stored part of the ~~stored~~ stream of encrypted data;

- retrieving the items with decryption information for the points in said stored part during said replaying; and

- combining the retrieved items with decryption information with the ~~stored part stream~~ during replay at times selected under control of the synchronization information.

2. (Currently Amended) A method ~~The method~~ according to ~~Claim 1~~ claim 1, wherein during replay the ~~stored stream of encrypted data~~ is fed to a decoder and the decryption information is combined with the ~~stored stream of encrypted data~~ by feeding the decryption information to a secure device, which in response to the decryption information feeds control words to the decoder.

3. (Currently Amended) A method ~~The method~~ according to ~~Claim 1~~ claim 1, including: ~~comprising the steps of~~

- storing the items with decryption information each in association with a respective time stamp value;

- maintaining a progressive time ~~value~~ stamp counter during replay of the stored stream of encrypted data; and

- combining each particular retrieved item with the stored stream of encrypted data in response to detection that the time stamp counter reaches the time stamp value associated with the particular retrieved item.

4. (Currently Amended) ~~A method~~ The method according to ~~Claim 3, comprising claim 3,~~ including:

- maintaining a further progressive time ~~value~~ counter during reception of the stream of encrypted data;

- sampling values from said further time ~~value~~ counter each time when a respective one of the messages is detected during reception;

- storing decryption information from said message in the items with decryption information;

- storing the sampled value sample for each respective one of the messages as said time stamp value associated with the item that contains decryption information from said message.

5. (Currently Amended) ~~A method~~ The method according to claim 3, wherein the encrypted data contains time counting information used for controlling progress of the time ~~value~~ stamp counter.

6. (Currently Amended) ~~A method~~ The method according to ~~Claim 1 comprising claim 1,~~ including:

- detecting respective ones of the messages detected during reception of the broadcast ~~data~~ stream;

- assigning different sequence numbers to the detected messages;

- storing information representing the sequence numbers among the encrypted data at locations where the messages to which the sequence numbers have been assigned occurred in the broadcast ~~data~~ stream during reception;

- storing each sequence number in association with a respective one of the items with decryption information that contains encryption information from the message to which the sequence number is assigned;
- using the sequence numbers stored among the stored stream of encrypted data to retrieve and time the items associated with the sequence numbers.

7. (Cancelled)

8. (Currently Amended) A conditional access apparatus for processing a broadcast data stream that contains a stream of encrypted data and a stream of a plurality of decryption information messages, data in successive segments of the stream of encrypted data being decryptable with successive decryption information from the messages, the apparatus comprising comprising:

- storage means a storage unit, the apparatus being arranged to store the stream of encrypted data in the storage means storage unit, as well as storing items with decryption information for the encrypted data independently retrievable from the stream of encrypted data, and storing synchronization information linking respective points in the stored stream of encrypted data to respective ones of the items with decryption information;

- a replay unit for replaying a stored part of the stored stream of encrypted data;
- a retrieval unit arranged to retrieve the items with decryption information for the points in said stored part from the storage means storage unit, and to feed said items to the replay unit during said replaying;

- a secure device[[],] arranged to generate control words under control of the decryption information and to feed the control words to the replay unit to decrypt the items;

- a synchronization unit arranged to combine the retrieved items with decryption information with the stored part of the stored stream of encoded data during replay at times selected under control of the synchronization information by feeding the decryption information to the secure device at the selected times[[],] for generating the control words.

9. (Currently Amended) [[A]] The conditional access apparatus according to Claim 8, comprising claim 8, including:

- ~~means for a time stamp counter for generating time stamp information including time stamp values, the storage means storage unit storing the items with decryption information each in association with a respective time stamp value;~~
- a progressive time ~~value~~ stamp counter that is active during replay of the stream;
- the synchronization unit combining each particular retrieved item with the stream ~~of encoded data~~ in response to detection that the ~~progressive~~ time stamp counter reaches the time stamp value associated with the particular retrieved item.

10. (Currently Amended) [[A]] The conditional access apparatus according to Claim 9, comprising claim 9, including:

- a further progressive time ~~value~~ counter active during reception of the stream;
- a sampling unit for sampling values from said further time ~~value~~ counter each time when a respective one of the messages is detected during reception;
- the ~~storage means~~ storage unit storing decryption information from said message in the items with decryption information and storing the sampled value sample for each respective one of the messages as said time stamp value associated with the item that contains decryption information from said message.

11. (Currently Amended) [[A]] The conditional access apparatus according to Claim 8 comprising claim 8, including:

- a detection unit for detecting respective ones of the messages during reception of the stream and assigning different sequence numbers to the detected messages;
- the ~~storage means~~ storage unit storing information representing the sequence numbers among the encrypted data at locations where the messages to which the sequence numbers have been assigned occurred in the stream ~~of encoded data~~ during reception; and storing each sequence number in association with a respective one of the items with decryption information that contains encryption information from the ~~detected~~ message to which the sequence number is assigned;

- the synchronization unit using the sequence numbers stored among the stream to retrieve and time the items associated with the sequence numbers.

12. (Cancelled)

13. (New) A conditional access apparatus comprising:

a reception unit operable to receive a data stream, the data stream including encrypted data, entitlement control messages, and entitlement management messages each multiplexed into the data stream;

a demultiplexer coupled to the reception unit, the demultiplexer operable to demultiplex the encrypted data, the entitlement control messages, and the entitlement management messages from the data stream;

a decryption information recording unit coupled to the demultiplexer, the decryption information recording unit to sample the entitlement control messages, and to output for storage only some of the entitlement control messages provided by the demultiplexer; and

a storage unit coupled to the de-multiplexer and to the decryption information recording unit, the storage unit operable to store the demultiplexed encrypted data, and to store the sampled entitlement control messages output from the decryption information recording unit,

wherein the sampled and stored entitlement control messages are stored in the storage unit as independently retrievable from the demultiplexed encrypted data.

14. (New) The conditional access apparatus of claim 13, wherein the decryption information recording unit is operable to trigger sampling of the entitlement control messages from the received data stream upon detection of a transition in the content of the entitlement control messages in the received data stream.

15. (New) The conditional access apparatus of claim 13, wherein the decryption information recording unit is operable to trigger sampling of entitlement control messages from the received data stream at a pre-detected rank order after detection of a signal edge indicative of a transition in the content of the entitlement management messages.

16. (New) The conditional access apparatus of claim 13, wherein the decryption information recording unit is operable to decrypt the encrypted data output from the demultiplexer, and then to re-encrypt the decrypted data with a key that is local to the conditional access apparatus, the key not having been included in any of the entitlement management messages received in the received data stream.
17. (New) The conditional access apparatus of claim 13, wherein the encrypted data includes a series of segments, and wherein the decryption information recording unit is operable to sample the segments, and to provide as an output no more than one entitlement control message corresponding to each of the segments, output entitlement control messages including at least one control word used for decryption of a corresponding segment of the series of segments.
18. (New) The conditional access module of claim 17, wherein each of the no more than one entitlement control messages are linked to the corresponding segment by a pointer stored in the encrypted data.